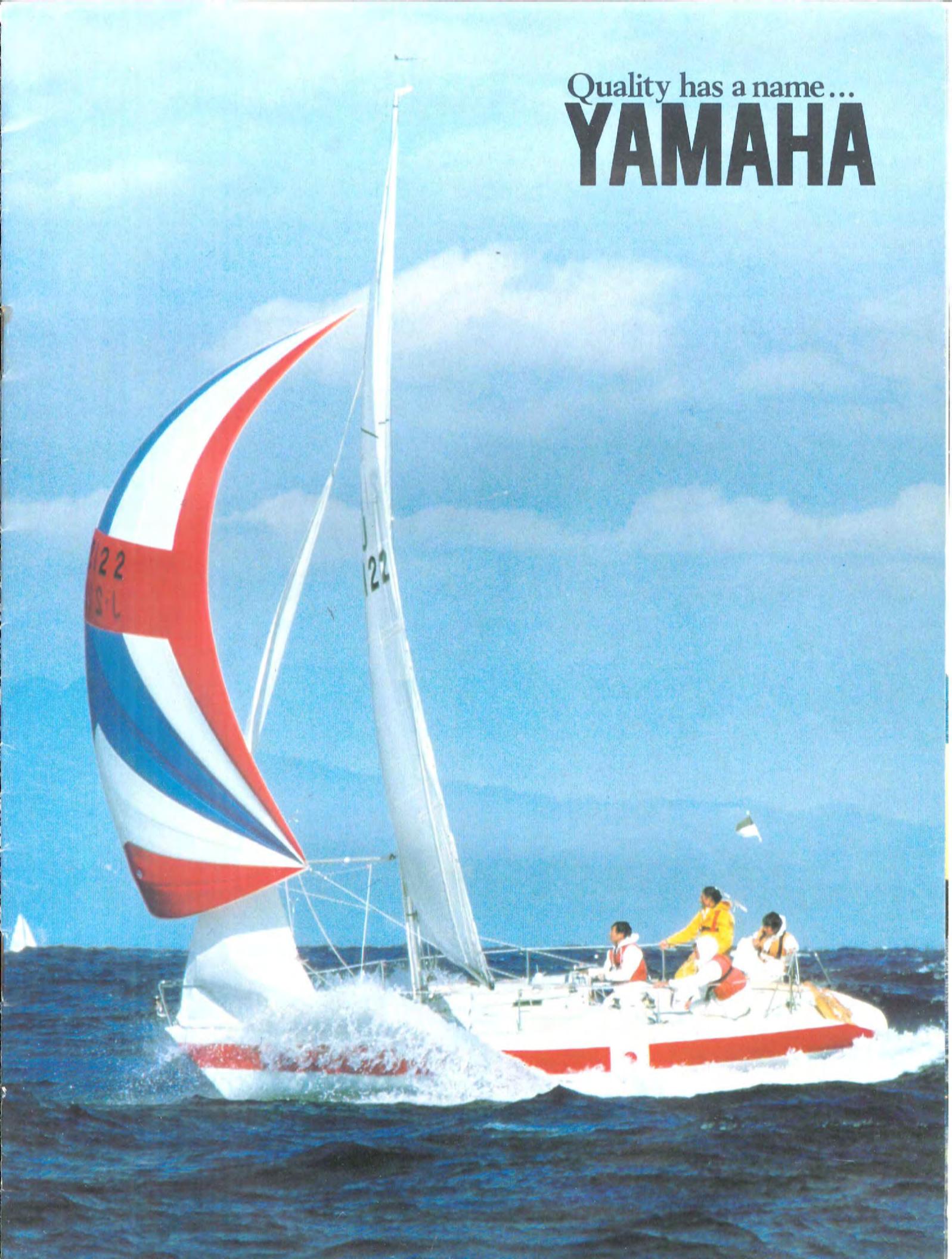


Quality has a name...  
**YAMAHA**





"Hobikisen", traditional sailing dragnetters, fishing at Kasumiga-ura.

# In the tradition of the sea

Japan lives by the sea. Since the beginning of history the Japanese have gone to sea for their very existence. Their heritage of seamanship has few equals, and their heritage of esthetics and design has none. The wedding of these two traditions has resulted in one of the most capable and respected maritime industries in the world, one of great technical resources and practical experience.

In modern Japan the largest manufacturer of boats and marine equipment is Yamaha. Yamaha's marine products encompass every facet of marine activity. They pioneered in the use of fiberglass for heavy displacement deep-sea fishermen, in waterjet workboats, and in maritime hydraulic systems.

Yamaha fishing boats are among the most rugged in the world. Their diesel engines and outboard motors are among the most reliable, and their sailing craft among the most enjoyable. Each Yamaha boat is designed to meet a particular need, and each one benefits from the experience and know-how gained over years of constructing boats and equipment for the toughest jobs and the worst conditions.

Yamaha products have changed the lives of people all around the world, from river pilots in Brazil to fishermen in Alaska. They have proven themselves many times over, on bluewater fishing grounds and wilderness lakes, in one-design regattas and offshore yacht races. They are products that are designed to work, and built to last. From simple utility boats to sophisticated ocean racers, Yamahas carry on an honest tradition of the sea.



# Built to survive



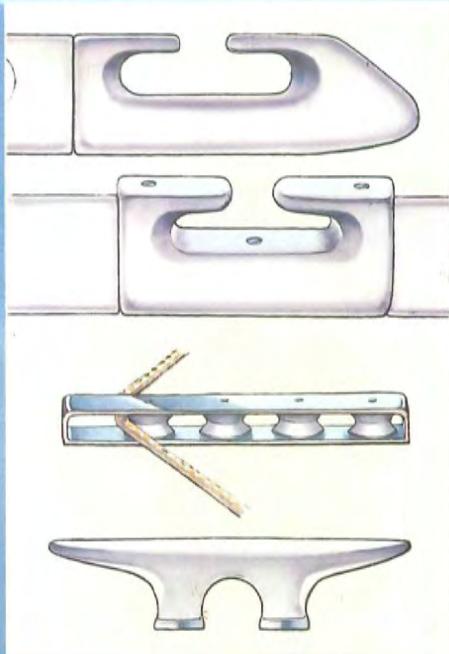
The finest design in the world is no better than the quality of work that goes into producing it. At Yamaha we spend as much time ensuring the quality of our output, as we do perfecting our designs. Every hull and deck is laid up by hand, and the integral grid-and-box structures are glassed in place using complex jigs that maintain absolute uniformity. Quality control begins with polishing the molds and ends only when the yacht is commis-

sioned for its new owner. Quality, however, is more than careful assembly.

Quality is the result of intense preparation before a boat goes into production. It's building intricate molds so strength can be achieved with lightness. It's eliminating real-life trouble spots before a yacht is built.

The deck hatches of a Yamaha racer/cruiser, for instance, are integral parts of the deck's engineering structure. Instead of the bolt-on stock part that you might find on most boats, Yamaha installs a hatch that has been specifically designed for the boat. Strengthening ridges, hinge protection, and drainage scuppers are all part of the original deck layup. The same detailing shows in the turning block bases, spinnaker pole chocks, and even specially designed propane-tank lockers.





Much of our deck hardware, and all of our bow and stern pulpits are original Yamaha designs and fabrications. The bow, stern, and midship mooring line chocks on the 33 are engineered to fit the boat exactly. Our tack fittings, backstay fittings, and most of the cleats are designed by the same team that designs the boats.

The mast ring on the 33 and 36 is a further example of how design and engineering enhance quality. We mount all the turning blocks to a ring that is an integral part of the mast, so the lifting loads are taken off the cabin top and kept in column on the mast. This is a light, strong, and simple system for boats with keel-stepped masts.



Little things can make a big difference. Our masts are foam-lined to reduce halyard chaffing and slapping. We vent our fuel tanks through the bow pulpits to reduce the number of through-hull fitting. We color-code every circuit in the electrical system.



Some of the most irritating problems on a sailboat come from the most everyday sources. That's why simple processes like our high pressure spray test are so important. The leak, the faulty electrical connection, or loose door latch that we catch and correct in the factory is one more thing that won't turn-up to spoil your sailing pleasure.

The biggest test tank of all covers three-quarters of the world's surface, and the bottom line for any boat is how well it does out there. That's why we make every effort to use design, engineering, and solid construction to build quality yachts that perform in the real world, for you.

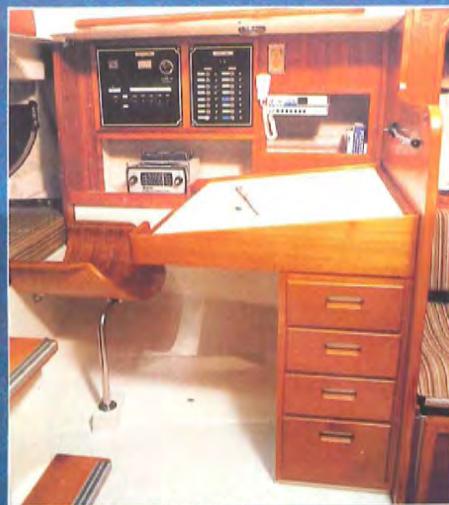


The seahood is another good example of designing for people. It's a fiberglass panel that adds strength to the deck, and reduces the chances of fouling lines that are led back to the cockpit. It also gives



people a clear place to sit down, free of skin-scappers and raingear-rippers.

Below decks it's more of the same. On every boat with a full navigation station, we install a molded teak and plywood seat, so



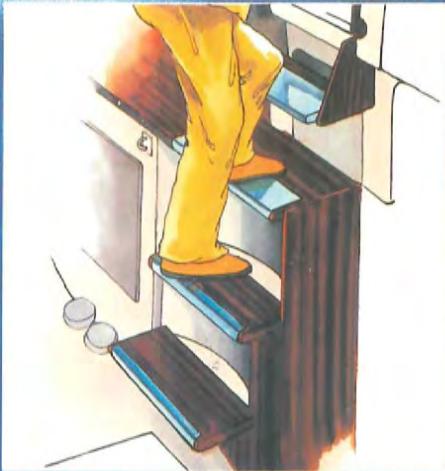
the pilot can be secure and comfortable when the boat is heeling. In addition to a good seat, every Yamaha gives the navigator a small gooseneck lamp over the chart table so he can have positive

illumination at his work station, without disturbing the sleep of the watch below.

Many small things only show up after close inspection, but they work so well that you wonder how other boats get by without them. The hefty grabrails and wide-radius rounded corners in the cabins are simple cases of human engineering. Another is the braided galley rope to brace the cook in heavy weather. It's not a new idea, but we make sure that one is installed as standard equipment in all of our stand-up galleys.

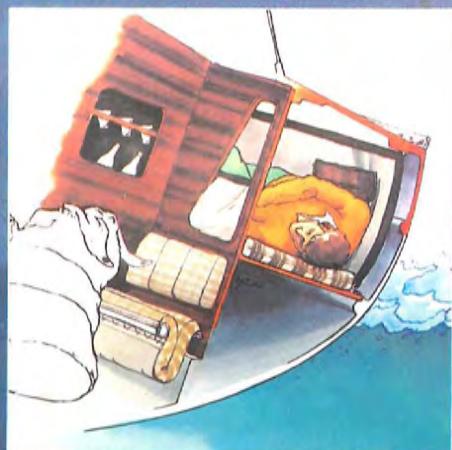


**Toe space on the companionway** of the 33 is another little feature that sets our boats apart. By making the stair treads narrower, we can give you more usable cabin space. By tooling the companionway mold with indentations for toes and heels, we make the ladder safer too.

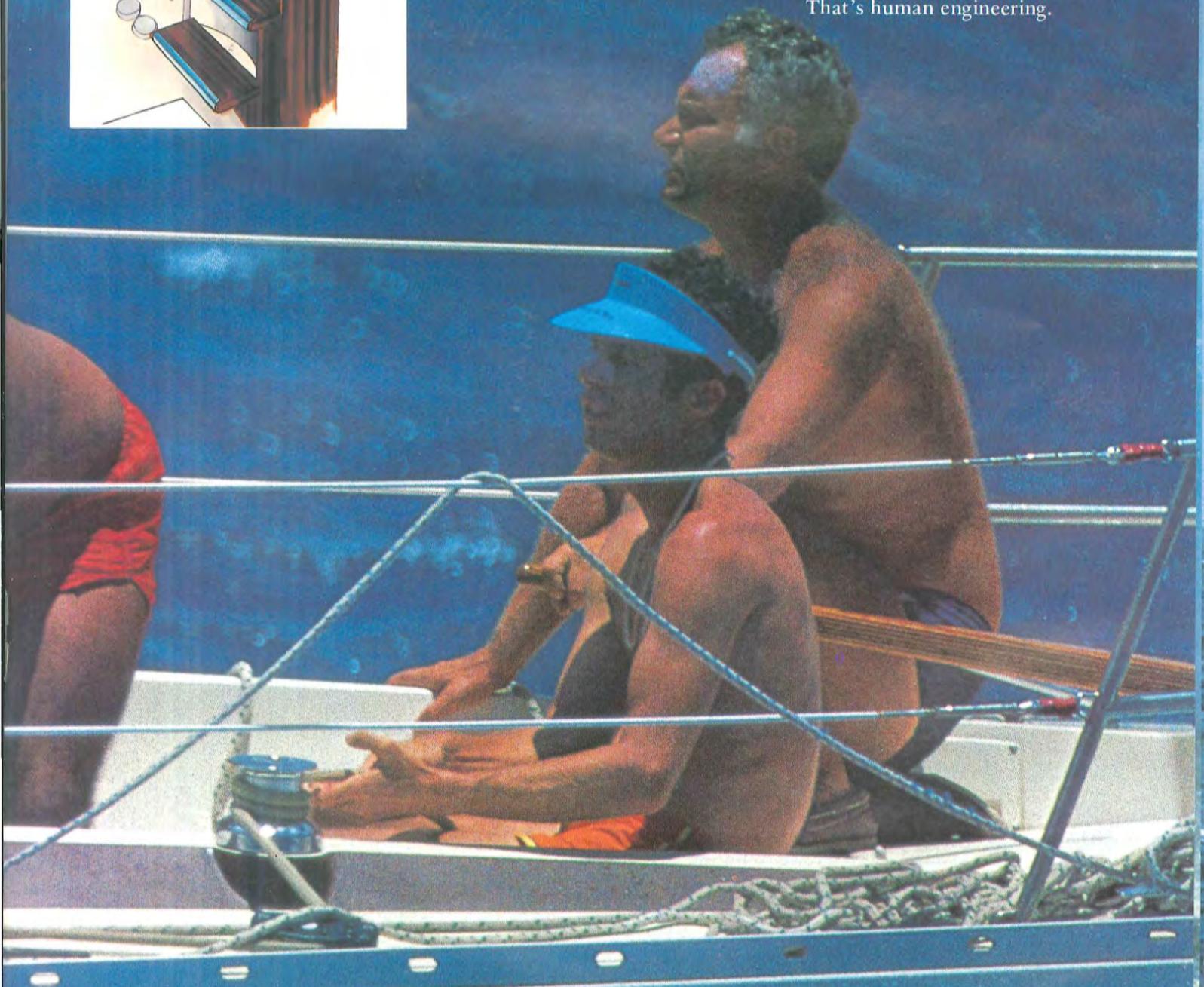


The pilot berths on the 33 and 36 have liners of heavy nylon duck. These liners contain storage for personal gear, and they suspend the sleeper away from the hull. That way the off-watch enjoys the cushioning effect of a hammock, rather than the bouncing of a hard hull.

Even our unique forward engine position has human engineering benefits. By placing the engine under the vee berths we make good use of space that is usually ignored, and we free-up easily used storage space under the companionway and cockpit sole.

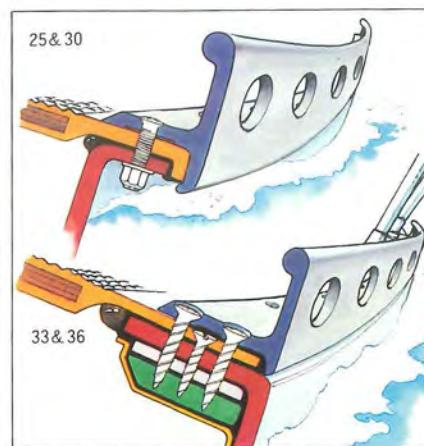


Some big things, some small ones, they all add up to a consideration for the people who sail boats. That's human engineering.



The hull-to-deck joints of Yamaha sailboats are engineered to the requirements of each design. The 36 and 33 use an inboard flange system, with a full-length aluminum plate glassed into the gunwale. This plate is tapped and the deck is bolted to it, after being chemically bonded and sealed. The full-length plate also anchors the toerail, adding even more strength to the joint.

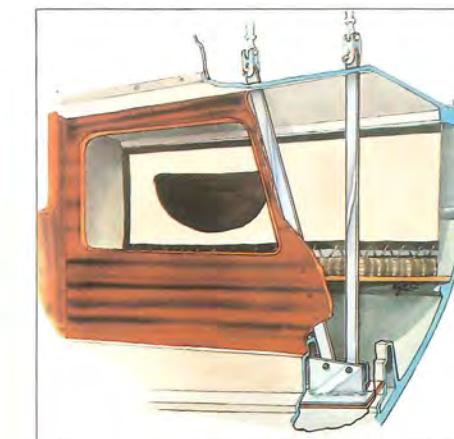
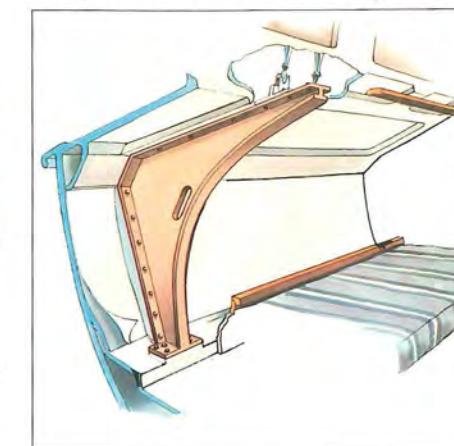
The 30 and 25 use variations on the outboard flange, again with chemical and mechanical bonding, and reinforcement from the full



length toerail. On the 30 we use stainless-steel bolts for fasteners and on the 25, monel rivets.

Our chainplates are also engineered for each boat's needs. On the 30 the load of the shrouds is passed

to a steel knee that is glassed to the hull and bolted to the grid-and-box structure beneath the pilot berths. On the beamier 33 and 36, the chainplates are taken down along the pilot berth bulkheads right to



hull, where they are bolted to anchors that are glassed to the hull and backbone.

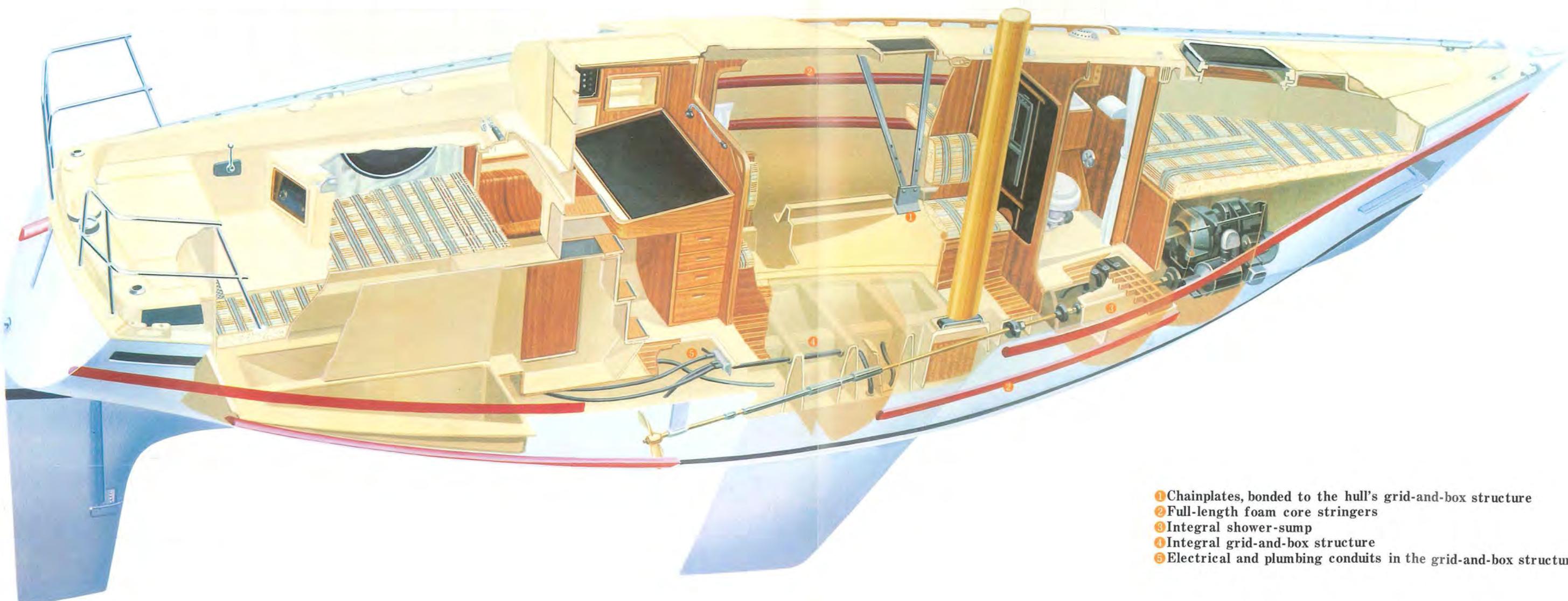
The bulkheads form the final element in the structure of a Yamaha racer/cruiser. They are glassed to the hull with a thick

flange, then through-bolted. They are also through-bolted to the backbone after chemical bonding. The backbone also distributes the loads of the fin keel. The keel is bolted through the bottom of the floor grid, then a fiberglass sleeve is laminated around the hull-to-keel joint. This helps eliminate hairline cracking at that joint.



The grid-and-box structure of our boats also provides us with a solid, easily accessible, engine box. It's under the vee berths, in one of the least utilized areas of most sailboats.

Convenience, performance, and strength, they are all the results of intelligent, intensive, Yamaha engineering.



- ① Chainplates, bonded to the hull's grid-and-box structure
- ② Full-length foam core stringers
- ③ Integral shower-sump
- ④ Integral grid-and-box structure
- ⑤ Electrical and plumbing conduits in the grid-and-box structure

# Engineered for enjoyment

Boats have to accommodate people. They are small spaceships, that must be engineered for humans just as they are engineered for strength and durability. On deck, racers need to work in all conditions, and in the cabin, people need to relax, eat, and sleep in comfort. People are an integral part of every sailboat, and they deserve to be considered as original equipment, not add-on options.

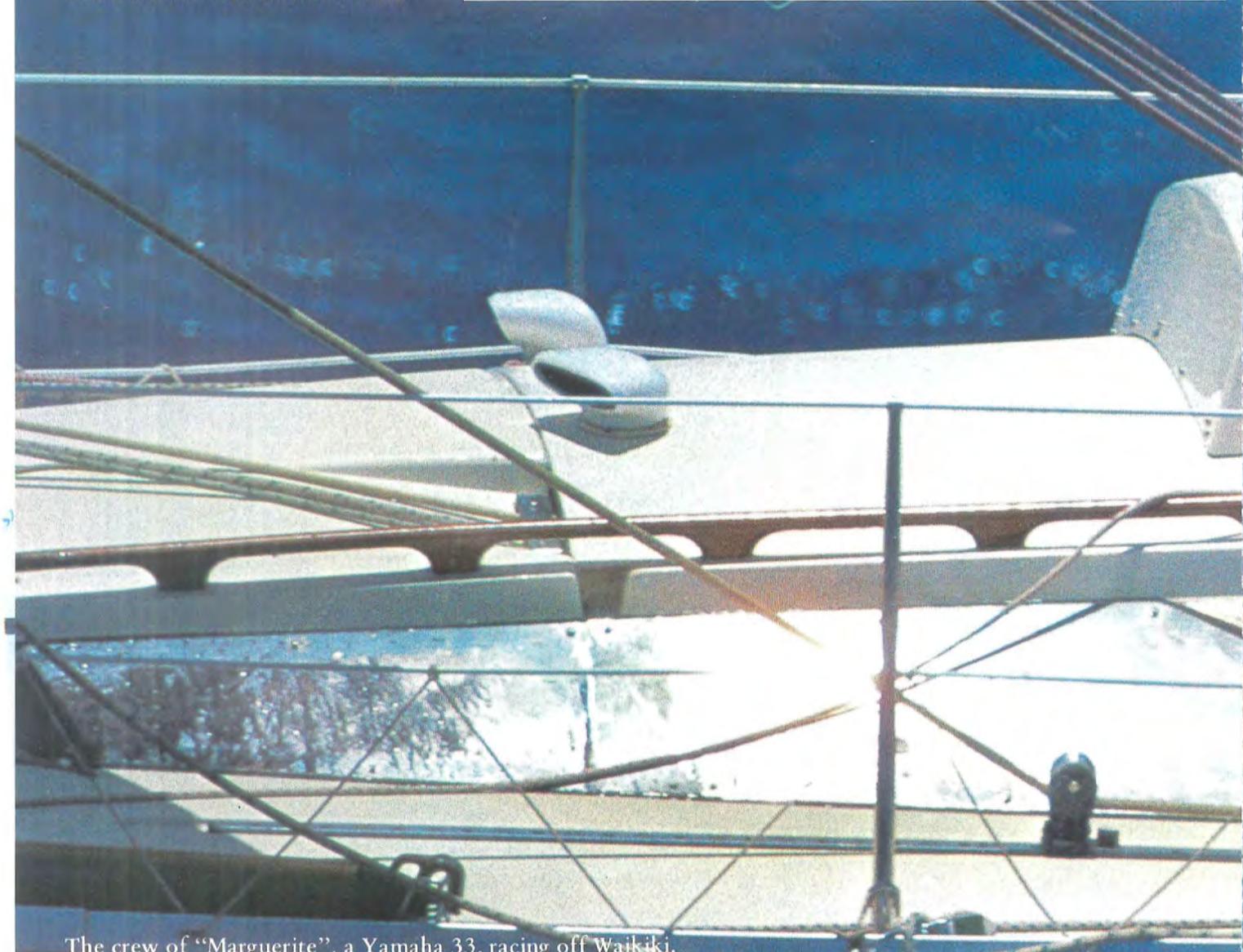
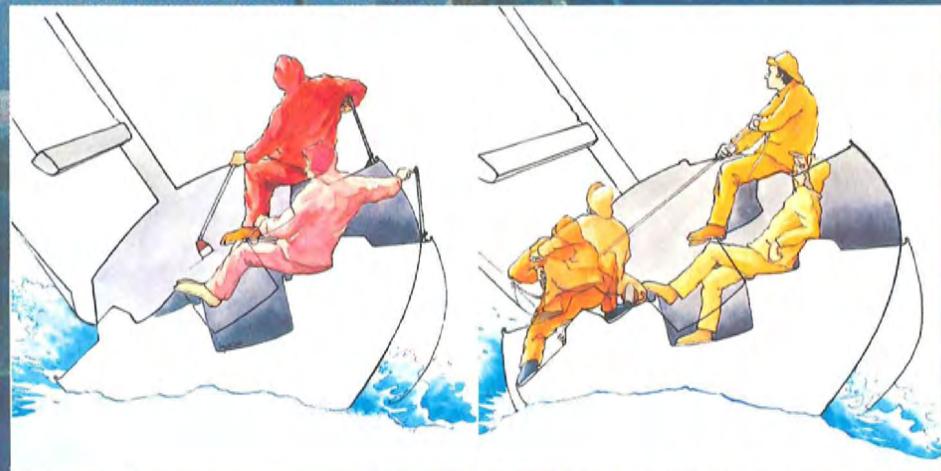
The most easily recognized example of Yamaha's human engineering is the cockpit configuration of our racer/cruisers. They are designed to be efficient, at all angles of heel. The cockpit seats are concave to hold the body, and the coamings are angled outward to fit into the small of the back.

There are low rails on the inboard

faces of the seats to provide solid footholds when the helmsman or crew is up on the coaming, and the perforated rails make secure attachment points for safety harnesses.

The outboard sides of the coamings

and the side decks are also designed to work for you when the boat is heeled. The same kind of detailing is carried forward along the cabin top and foredeck to give you good footing, without cluttering the decks.



The crew of "Marguerite", a Yamaha 33, racing off Waikiki.

Some of the Yamaha sailboats pictured in this brochure may have optional or specialized equipment.

# Engineered for endurance

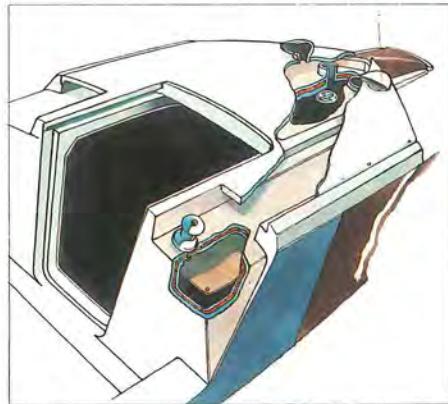
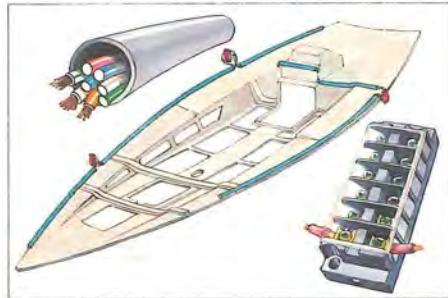
A sailboat presents a complicated engineering problem. It operates in the boundary layer between air and water, and relies on both for stability and propulsion. The catalogue of forces acting on a sailboat underway includes gravity, forcing the boat into the water, and buoyancy, forcing it out. The keel exerts weight and torsion. Tension in the rig works to pull the edges of the boat up and in, while the mast pushes the midships section down. The wind, waves, and water all impart forces in different directions. These factors form constantly changing equations, and the number of broken-down sailboats in the world is true testimony to the power of the forces at work.

At Yamaha, our engineers have the job of creating an efficient structure to withstand these forces. The solutions to the problem vary with each boat, and a new Yamaha design generates over two-hundred drawings and studies by the time we are satisfied that the problems are licked.

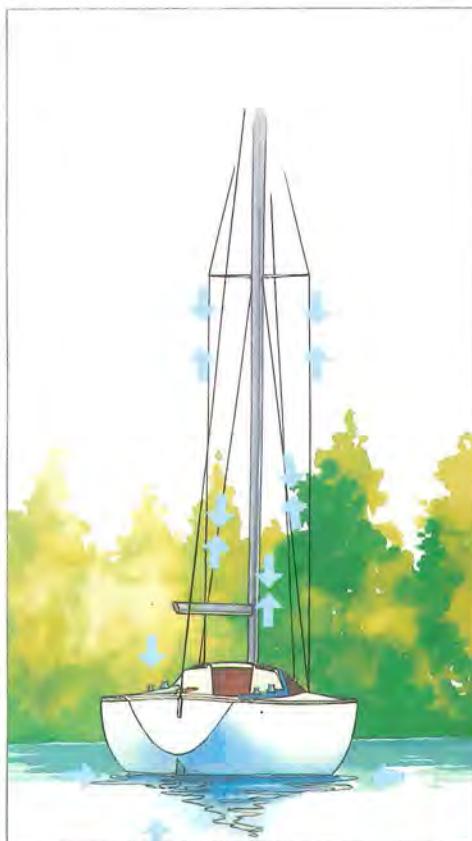


The key to every Yamaha racer/cruiser is the integral grid-and-box structure that forms the backbone of the boat. This backbone, combined with the hull skin and stringers, gives the boat tremendous rigidity. The grid-and-box structure is laid up on a mold like the one pictured here, and it provides integral conduits for electrical, plumbing and exhaust systems, as well as solid, three-dimensional, anchor points for equipment. This kind of engineering allows us to build a very strong boat, with a relatively light hull, so performance is increased along with safety.

A similar solution is used in the decks of our boats. Stress areas are cored in marine plywood, and the entire deck is mated to a light-weight grid structure. This solution allows us to integrate electrical conduits and modular circuitry



with solid mounting points for equipment and built in dorade vents. Between the backbone and the deck, the hull is reinforced with foam-cored stringers.



# Designed right, right from the start

Every Yamaha sailboat is the creation of a design and engineering process that is unmatched in the sailing industry. Over two dozen people are involved in the design of new Yamaha sailboats. They range from the men who created the 1978 Quarter-ton World Champion, to engineers, model makers, computer technicians, and test sailors. Together they create sailboats to meet both the arbitrary requirements of racing rules, and the practical needs of cruising sailors. Intuition, technical innovation, and hard-headed calculation are brought together to produce sailboat designs that truly bridge the gap between competitive racing and enjoyable cruising.

The process begins with the drawing of preliminary lines. These

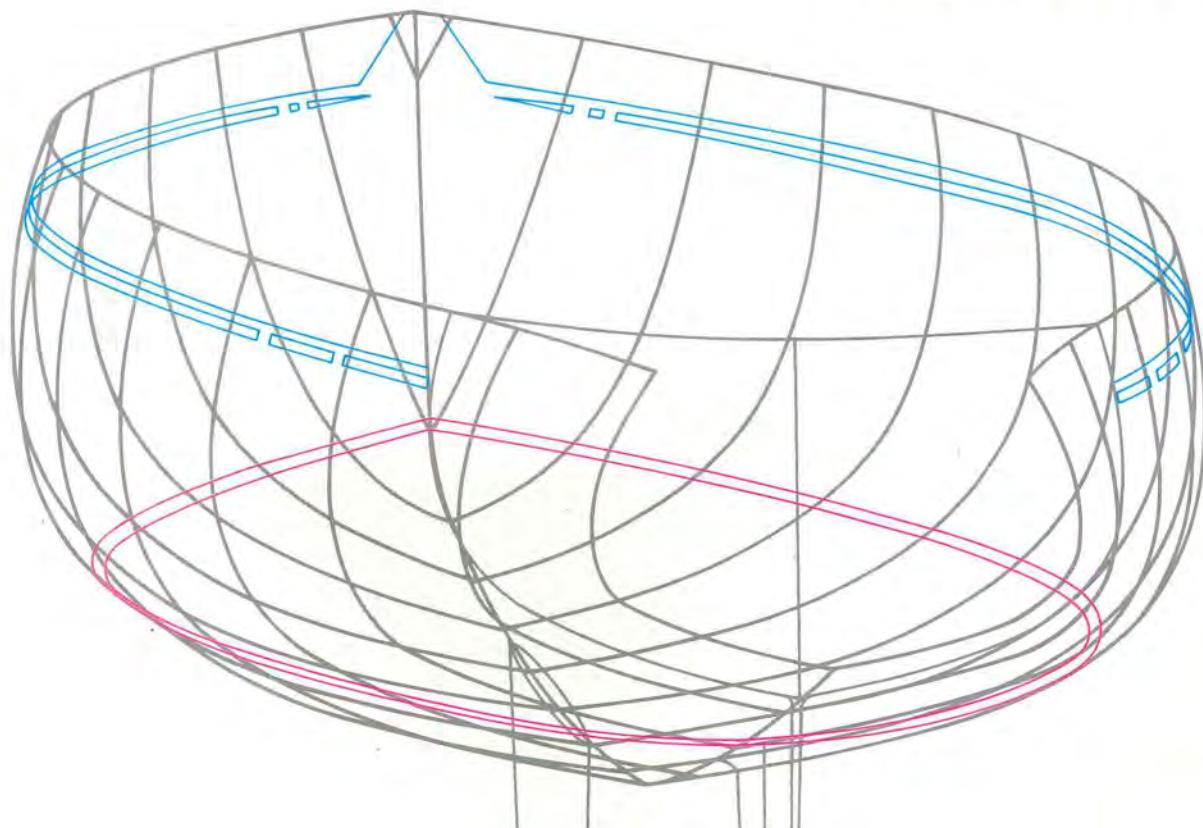


are refined, and fed into Yamaha's computer for basic analysis and study. Models are made off variations on the preliminary lines,

and are tested in our test tank. This computer analysis capability and the test tank facility give our designers the flexibility to experiment with several solutions to a design problem, early in the design process.



While the hull shape is being refined, mock-ups of the deck, cockpit, and interior may be constructed to insure that the boat will meet the needs of people as well as computers. In the mock-up stage, the practical experience of many sailors can be directed at the problem, and can result in real-world answers to design questions. Some of the best features of Yamaha sailboats have come directly from mock-up testing.



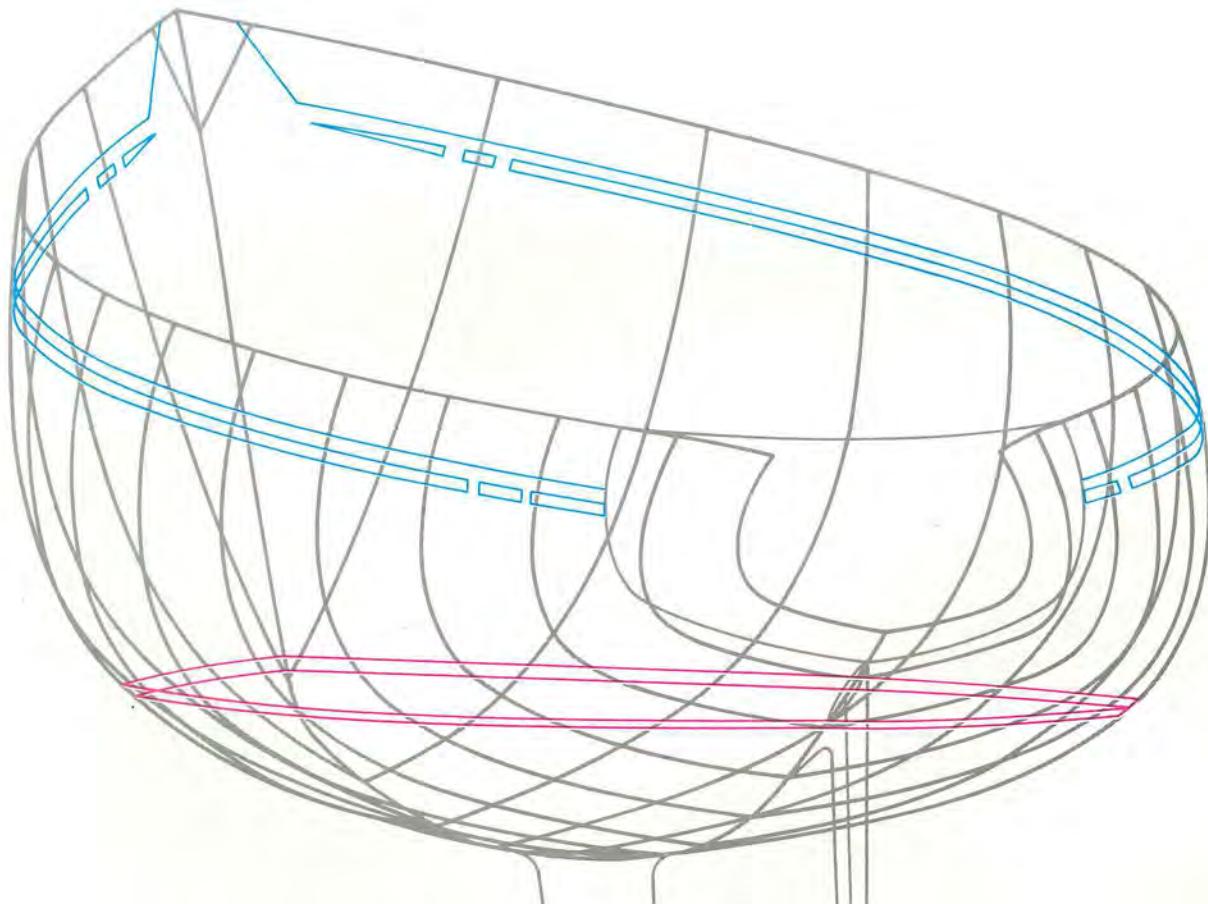


Scale models of the interior and exterior of the boat are also built, so we have a sure, three-dimensional look at the design in miniature. This gives the designers yet another chance to find any deficiencies in lines or accommodations that may have passed unnoticed on the drawing board. These models also aid production planners as they tackle that part of the new boat problem.

Finally, prototypes are built and tested, and for Yamaha, testing usually means racing. "Magician II," pictured below, was the prototype of our 36-foot racer/cruiser. If the prototype performs to design expectations, it is refined, and production studies are begun. If the boat doesn't seem right, then it is modified and redesigned until the design goals are met. This isn't the cheapest way to design a sailboat, but we think it's the surest way. It's the only way we can be convinced that a new boat is good enough for the Yamaha name.



Does the process work? Of course. "Magician V", the Quarter-ton World Champion, was a direct outgrowth of the Yamaha 24 production boat design project. In fact, it's hard to tell if the production boat is a modification of the champion, or vice-versa. The Yamaha design process results in boats that are safe and capable sailors, the products of a system that combines practical design experience with the best technical tools available. We have the technical tools because of our major commitment to the marine industry. We use them to meet our commitment to discriminating yachtsmen around the world; a commitment to produce the best possible sailboats, from start to finish.



# Comfort, proven on the cruising gro

We think our racer/cruisers are among the best cruising yachts of their size, anywhere. The performance that makes them good racers also makes them efficient cruisers, and the comfort features that we design into them, set them apart from all other boats.

The unique cabin arrangement of our 25 is a good case of convenience by design. It's an athwartships configuration that uses the space most efficiently



to make a small boat much bigger. Foot-pump-operated water closets are a thoughtful consideration of the cruiser's needs. So do the deep sinks, and all the

easily accessible storage space. Easily cleaned fabrics and tough table and counter tops make Yamahas easy to live with, while their intelligent designs make them easy to live on.



A prime example of intelligent "cruising" design is the Yamaha table. Take a good look at all the tables on all the boats around—then inspect ours. Most of them work like Chinese chandeliers. In the Yamaha, chairs are built-in, so are steel legs, and there are molten urethane in the cabin soles to hold them in place. On the mast, there's a strong mounting bracket,

and the table has a positive-action latch to hold it in place. It's a structure that doesn't collapse everytime you brace against it in a seaway, and you don't have to worry about your dinner table dropping in your lap when you eat aboard your Yamaha.

The head and shower also set our yachts apart from run-of-the-mill boats. On the 30, 33, and 36 the shower is designed as an integral part of the interior, not an optional extra. It makes full use of the forward companionway area, yet



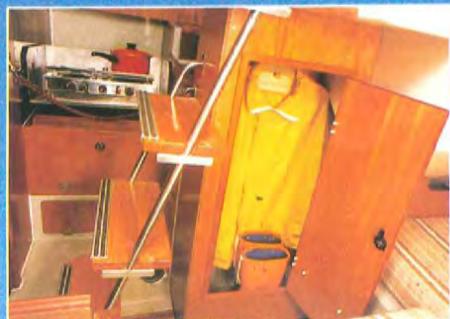
A Yamaha 36 off Honolulu.

Some of the Yamaha sailboats pictured in this brochure may have optional or owner-installed equipment.

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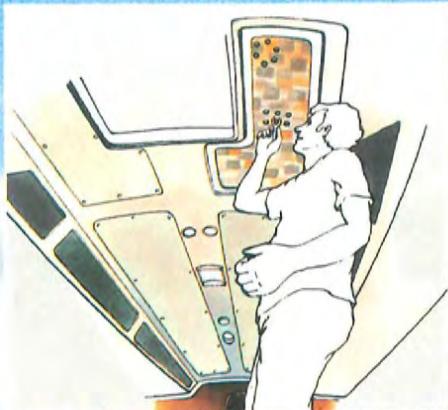
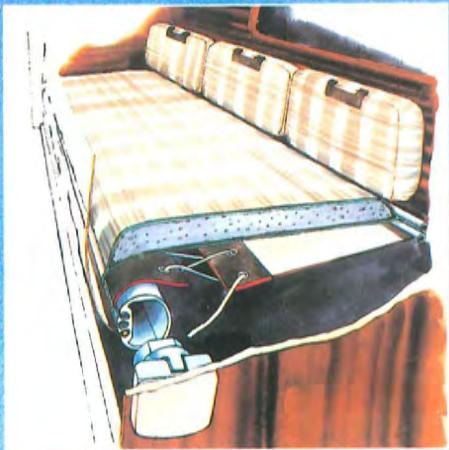
dissappears when it's not in use. The sink is on slides. When you want to clean-up, just pull it out and you have an efficient sink and vanity. When it's not in use, it slides back under the cabinet. It's one more case of good design putting bigger boat convenience in a smaller space.

This kind of design shows up in the stowage space under the companionway. There is storage for raingear, boots, or safety equipment, and you have easy access to the area beneath the cabin sole.



Maintenance is easier on Yamahas also. The big engine box, forward, opens all the way for easy servicing. Equipment mounting points on deck are reached via the removable access panels in the cabin overhead. These panels are part of the tooling of the monocoque deck structure, and they are put there just to make maintenance simpler and cleaner.

The cushions, seat bottoms and lee canvases on our settee berths are all removable. They mount in a strong aluminum extrusion at the front of the settee, and are designed for easy cleaning. They are one more way we make our boats better.



Comfort, performance, and easy maintenance, those are the things you need a cruising yacht, and they are the tools we set for Yamaha racers. And we're sure that Yamaha boats  
so you don't have to worry about them.



# Performance, proven on the race course



A credible racer/cruiser has to be able to race, and Yamahas have proven themselves on race courses many times. Our most dramatic success was that of "Magician V",

the 1978 Quarter-ton World Champion, pictured below. "Magician V" was a modification of a production Yamaha 24, and grew directly from the Yamaha design process. Sailed by a crew of Japanese and American racers, "Magician V" defeated 32 boats from all around the world, in some of the most trying conditions imaginable for small offshore boats.



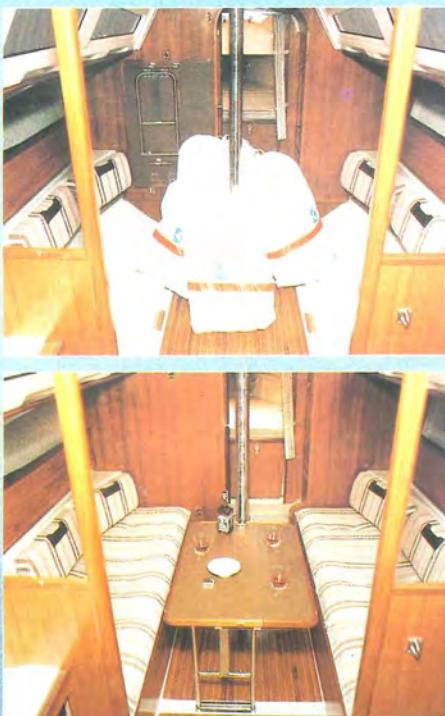
The single-handed Trans-Pacific race was won by "Wing of Yamaha", a one-off design generated by the racer/cruiser design team. Meant especially for solo ocean racing, the "Wing" was conceived, designed, and built in just 90 days. She is another example of the kind of performance Yamaha's designers can produce.

In addition to the racer/cruisers, Yamaha builds several boats for Japanese level and class racing, as well as a full line of performance dinghies. In the International 470 class, Japanese sailors in Yamaha boats have been consistent competitors. In 1978 Kazunori Komatsu and Yasuyuki Hakomori won the pre-Olympic regatta at Tallin in the Soviet Union.

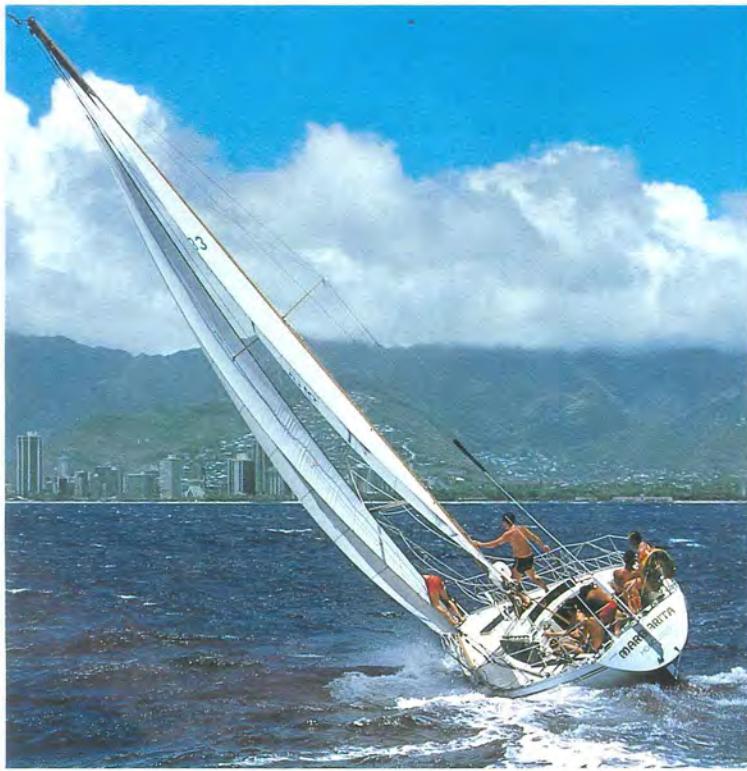


For the sailing public, however, the most important performances are those like the finish of Yves Anrys and André Wilmet in the 1978 Round-Britain-Race. In a stock Yamaha 33, these two Belgians took second overall, and were the first 3/4 Tonner, and first production boat. The stock Yamaha is designed to race, and this kind of performance proves it.

The 30, 33, and 36-foot Yamahas all have interiors that are truly convertible. The settees can be removed very easily to provide a big sail storage and packing area. The 30 also has pilot berths that fold away, for even more efficient use of space. After the race, the settees go back, and the crew can relax in a civilized cruising boat. Convertible salons give the racing sailor the opportunity to work his sail inventory and adjust his boat trim, without destroying the interior of his cruiser. These are the kind of features that make our boats real racer/cruisers. They are thoroughbreds by design and they really can race.



"Magician V" with a weather berth on the fleet in the 1978 Quarter-ton World Championship.



# YAMAHA

*When you know how they're built.*

We are constantly striving to make Yamaha yachts even better, so specifications and features of the boats are subject to change without notice. Printed in Japan